The NGATS-CNS National Testbed

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Application of Wireless Network

- The following potential applications for the Airport Wireless Network were discussed:
  - Wireless comm loop on airport – increased accessibility and decreased cost compared to traditional wired
  - Mobility for users
    - Fixed to fixed
    - Fixed to mobile
    - Mobile to mobile
  - Wake vortex sensors off runways/airports (brought into SWIM network)
  - Airport perimeter security Sensors
- Segregation and prioritization of data on radios given the above possible applications are issues to be researched.
- What other sensors would be of interest?
  - Icing sensors
  - RVSM
  - Runway occupancy sensors

Wireless Network Applications

- The question of whether the network extends to the aircraft, be it GA or Commercial remains an open question.
  - Technical & Operational open questions…not in the plan today but should be addressed in the future
  - What would the uses be?
    - Updating flight plans
    - Text messaging
    - Maintenance – technical manuals, video conference
    - "Gatelink" for regional airlines (download aircraft data)
      - Action to look at current applications of GateLink
- Suggestion to follow up with UPS to determine if they are interested in participating in Test Bed?
  - Extension into ground distribution network (Cuyahoga Airport)?
- Integrate with Emergency Response teams
  - Aircraft info (cargo on board - hazmat)
  - Location info (from ASDE-X)

NEO/SWIM-enabled Applications

- The following possible Network-Enabled applications were suggested
  - Virtual Tower (Remote Air Traffic Services)
  - Digital ATIS over UAT to cockpit as text message
    - Consolidating ATIS info report and broadcasting it
  - Traffic flow management
  - Regional situational awareness
  - Collaborative decision making based upon roles/responsibilities
  - Manage a region rather an airport
  - Combining data in ways that we haven't even thought of yet

4D Trajectory Experiments

- Open questions on the 4D experiment
  - Throughput requirement of data link to support 4D exchange operationally
  - Processing capability of 4D "computer" on ground – i.e. what is the capability required of the automation functions?
- Given the complexities of 4D experiments in the air, should consider 4D on surface
- FANS ADS equipped aircraft may be available in and around Cleveland for use in experiments
- Test bed shouldn't ignore the possibility of showing cooperative processing between aircraft

Proliferation of Test Beds

- Given the proliferation of Test Beds, the following comments were made:
    - Mitre "Simnet" – interconnects different testing facilities
    - Military has been linking different simulation sites
    - Will Sensis sensor data be available for others to experiment with?
    - Geographically disbursed test beds can exercise the network connectivity issues